

TRIANGLE®

GRR

UV & LED curable pigmented inks

Technical Data Sheet

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GRR

INX Digital International Co.'s GRR ink is a premium UV and LED curable high density pigmented inkjet ink set formulated for use in the VUTEK® GS™ Series printers, especially the "r" models running only roll-to-roll.

Triangle's **GRR** inks are optimized for fast curing, both UV and LED, on the VUTEK GS series printers. They are Chemically compatible with the various OEM ink sets and produce a comparable Color Gamut to the OEM inks sets. **GRR** is formulated to have excellent adhesion and flexibility on a wide array of digital roll graphic media.

These inks are intended for jetting with high consistency on the VUTEK GS Series of printers

- ▼ Faster Cure than the OEM GSLXr Series inks
- ▼ Compatible color gamut to GS Series inks, better than GSLXr Series inks
- ▼ Lower cost
- ▼ Better chemical resistance
- ▼ Compatible chemically for ease of conversion
- ▼ UV & water resistant without coating or lamination*

Packaging

- ▼ 2 x 5 liter bag in box. Net quantity 10 liters.
- ▼ 9 Colors



Recommended Flush

UV Wiping Fluid – Solvent-based head wiping fluid.

Warning: GRR has limited compatibility with solvents. Adding solvents for any extended period of time into the ink train may cause premature curing.

Outdoor Durability

GRR inks are designed for outdoor use and, with a suitable substrate and correct ink application, should withstand 1-2 year exposure. Laboratory tests passed the 2-year outdoor durability criteria (delta E of <10 using accelerated testing equipment).

Temperature Exposure & Jetting

NO Temperature adjustments required during conversion. Inks can be used in jetting equipment with temperatures up to 60°C. Prolonged exposure to temperatures above 55°C however, should be avoided as long term exposure to high temperatures can induce premature polymerization.

Curing Information

GRR curing dosage is 60mJ/cm² with UVA (320-390 nm) using H-Bulb.

INX Digital Testing conditions are as follows: We use a Fusion LC6B Benchtop Conveyor with a Light Hammer 6 Curing System with an H-Bulb. The focal point of the lamp to the substrate is 2 inches. The inks are tested at a standard thickness of 9 microns on standard self adhesive viny (SAV). Each customer must determine the appropriate radiant energy necessary to achieve complete cure. It will be dependent on their conveyor speed, distance from the curing lamp, thickness of ink, color of ink, type of bulb (H, D, V or LED) and its irradiance, as well as environmental conditions. We use EIT Power Puck II radiometer to measure the irradiance and the energy density at four different UV bands (A, B, C and V).

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Flexibility & Adhesion

GRR inks are formulated to achieve optimum adhesion on commonly used flexible display graphics media. Certain display graphics media types such as polyethylene and other non-ionic surfaces can be problematic, so the customer should test these materials prior to conversion.

Incompatible Solutions

GRR is NOT compatible when exposed to solvents for prolonged periods of time. Certain solvents may cause premature curing of the inks within the ink train and print head. If there is solvent installed prior to the ink conversion, this solvent will be removed and no solvent will be installed as part of the ink train when converting to GRR inks.

Ink Storage and Shelf Life

These inks should be stored between 20° - 25°C (68° - 77°F). When stored properly inks have a 12 month shelf life.

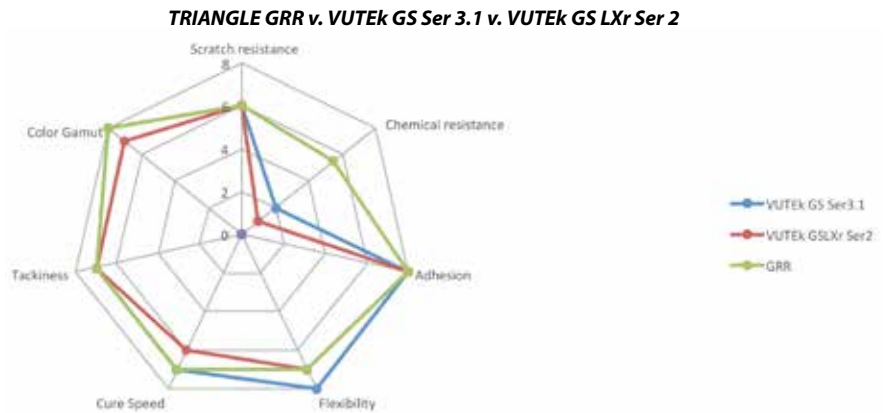
*White ink will need agitation before placing into printer and during the use in ink train.

Typical Physical Properties

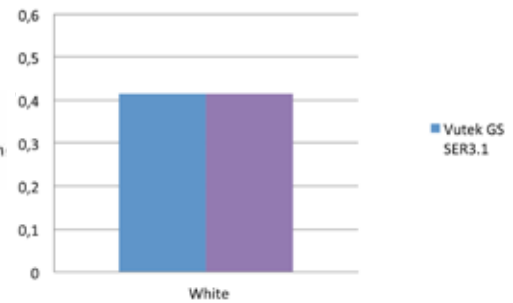
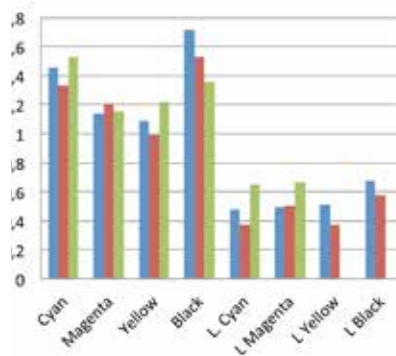
| PROPERTIES | RANGE |
|-----------------|-----------|
| Viscosity (cps) | 23 - 25 |
| Surface Tension | 10.5 - 11 |

Property Gamut

The spider chart below compares the properties of the TRIANGLE® GRR ink series against those of the VUTEK® GS™ Ser 3.1 and VUTEK® GS™ LXr Ser 2 series inks for the VUTEK® GS™ series printers.



Color Density Comparison



Note: White was draw down on PET substrate and Density(pet) was measured on Black.

*Conditions apply. This information has been carefully studied from experience gained in the laboratory and under commercial situations. It is subject to change without notice. All sales are subject to our standard terms and conditions of sale. Since applications vary tremendously, the user assumes the obligation to test this product in their specific situation to determine its suitability and assumes all risk and liability related to such use. INX International Ink Co. makes no warranty, express or implied, for the use of the product for any particular application. In no event shall INX International Ink Co. be liable for damages in excess of the original cost of the product nor shall INX International Ink Co. be liable for any special or consequential damages. **Coverage was calculated using actual figures obtained from a print shop. Coverage depends on the file being printed and printer settings. GRR is not endorsed by VUTEK®. VUTEK® GS™ names and copyrighted materials are the property of Electronics For Imaging, Inc., Foster City, CA.

